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The Place of Environmental Valuation in the Training of Estate Surveyors and Valuers

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Abstract

Estate Surveyors and Valuers in Nigeria and Valuers in the international context, are trained to ascribe values of any description on real estate, with a menu of courses prescribed and approved by both the National Universities Commission and the Estate Surveyors and Valuers Registration Board of Nigeria. While the training equips graduates with valuation and management skills, the course contents do not contain methods of environmental economics and valuation and therefore do not prepare valuers sufficiently to incorporate the need for environmental awareness that is now of international concern. This paper reviews the result of a questionnaire administered to practicing valuers, after reviewing literature on some methods used in valuing environmental goods and services and concludes that practicing valuers are not adept in incorporating environmental issues in their valuation. It therefore recommends the incorporation of environmental valuation into the valuers training curricular if they are to adequately reflect environmental issues in their practice.

Keywords: Environmental Valuation; Training; Estate Surveyors and Valuers; National Universities Commission and Estate Surveyors and Valuers Registration Board of Nigeria.

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1. Introduction

Environmental Valuation is the process of ascribing monetary values to environmental goods and services, many of which have no easily observed market prices [1]. Some of the goods and services include pleasing vistas, mountain vistas, flora, fauna, watersheds, non timber forest products like snails, honey etc.

Valuation of environmental goods and services is grouped into two methods – pecuniary and non-pecuniary methods [2]. In pecuniary valuation, money is used as a measure of value for goods and services while in non pecuniary valuation, money is not necessarily used but people's feelings and perception are the yardsticks of measuring value.

Environmental Valuation evolved through many years of research work carried out by researchers in developing countries and countries in transition [3]. The work was facilitated by the Economics, Trade and Environment Unit of the United Nations Environment Programme (UNEP). By 1997/1998, a body known as Centre for Social and Economic Research of the Global Environment (CSERGE), which was commissioned by UNEP had coordinated research workshops in four regions of the world that have peculiar environmental conditions to work out possible and practicable methods of valuing such environments. The four regions are Africa, Asia, East and Central Europe and Latin America.

The results of the research gave rise to methods of environmental valuation mentioned in the body of this paper. Estate surveyors and valuers are trained to ascribe values to properties including anything affixed to or growing on land. Whipple [4] posited that there are arguments that the skills of the estate surveyors and valuers are specific and since there is a dearth of legal language in this area, the estate surveyors and valuers are not considered appropriate to ascribe values outside their core area of real estate.

In Nigeria, the law that registered estate surveyors and valuers Cap E.13, LFN [5] empowers them as the only professionals that can advise on value of property of any kind in Nigeria. Valuers here struggle to ascribe values to these goods probably due to lack of training in this regard. This paper seeks to look at the need to train estate surveyors and valuers in environmental valuation to take care of claimants' demand for their compensation and also to project the monetary worth of environmental goods which are increasing in importance. It examines the training content of valuers vis-à-vis environmental valuation and reviews some literature on the subject. A survey is conducted through the use of the questionnaire. The findings show that many valuers do not apply environmental valuation techniques in valuing environmental goods. There is therefore the need for valuers to be trained in environmental valuation to keep track with the position of Redford [6] that the American Comprehensive Environment Response, Compensation and Liability Act, CERCLA 1980 established liability for publicly-owned natural resources whose values are non-market derivatives and need to be determined by novel methods of ascertaining values in the absence of an obvious market.

2. Meaning of Valuation

Reference [7] cited Baum and Mackmin and defined valuation "as estimate of future benefit to be enjoyed from the ownership of a freehold or leasehold interest in land and property, expressing those future benefits in terms

of present worth". The International Valuation Standards Council [8] stated that "Valuation is an opinion of the price that would be obtained in a transaction or the benefit that would accrue to the owner of an asset based on a stated hypothesis". Akujuru [9] gave his own definition of valuation as "the process of determining or estimating the price of exchange in the market place". The Royal Institute of Chartered Surveyors [10] described valuation as, "a professional individual's opinion of the capital or rental price or value of a property on a defined basis". From the above definitions, valuation is variously defined but this paper agrees with the view of Akujuru [9] that it is a process of estimating the price of exchange in the market place.

3. Real Estate Valuation

Real Estate Valuation deals with the estimation of property market values; "that is the capital sum or the annual rental which at a particular time, on specific terms and subject to legislation, should be asked or paid for a particular interest in property" [11]. The peculiar characteristics of landed properties require special training of the Valuer to put things rightly together for optimum realization of desired income from an investment in the property. Some of these characteristics are the heterogeneous nature of landed property, legal issues, market imperfection etc.

4. The Valuer and His/Her Role

The Valuer is one that is primarily concerned with the estimation of market value [11]. This could be in the form of capital sum or an annual rent paid over a period of time for an interest in a property.

The Valuer's role includes:

- To advise on mortgage transaction regarding security of property.
- To advise a property vendor on the worth of his/her property.
- To advise a person whose property is to be acquired or who is dispossessed of his/her property on the amount of compensation to claim.
- To advise a prospective tenant on the annual rent to pay.

5. Methods of Valuation

There are five traditional methods of arriving at a value and they are:

- Direct Comparison Approach
- Investment Approach/Income Capitalization Approach
- Residual Approach
- Profit Approach
- Cost of Replacement Approach

In the reasoning of valuers in the United States, closeness in the approach to valuation has merged two of the methods into two others, reducing the number of methods to three. The three are:

- Income Capitalization Approach (Investment Approach)
- Depreciated Replacement Cost Approach
- Direct Comparison Approach

5.1 Income Capitalization Approach

Landed property as an investment yields income to the owner. The income comes in streams over a period of time. The streams of income usually cover a future period. This is why [7] stated that to determine the present value of this future income over the life span of the property or for a term, an allowance should be made for outgoings and the result is a possible determination of the worth of the investment. The process is by deducting cost of labour and other costs (incidental to the income) from earned income through outgoings to arrive at net income. The net income is capitalized by a yield called years purchase which is the present value of the right to receive ₦1 at the end of every year for the number of years of the life of the investment or for a term at a compound interest.

Outgoings are regular managerial expenses to maintain, insure and let a property [11].

5.2 Depreciated Replacement Cost Approach

The Royal Institute of Chartered Surveyors [12] and International Valuation Standards Council [13] defined Depreciated Replacement Cost as "the current cost of replacing an asset, with its modern equivalent asset less deductions for physical deterioration and all relevant forms of obsolescence and optimization". The phrase "modern equivalent asset" refers to an asset that is similar in function and has the same "productive capacity to the one being valued", but which has current design and constructed with modern materials and techniques [14]. Optimization is the adjustment made on the replacement cost to show that an asset may be technically obsolete. In this kind of valuation, the area of the property is determined and a unit construction cost supplied by a Quantity Surveyor applied on the area. The result is subjected to a percentage allowance of deduction to reflect the age of the property. This method is used for specialized properties that do not have trading potentials.

5.3 Direct Comparison Method

In this method the property being valued is compared with other properties having similar qualities and recently sold within the same neighbourhood with the one being valued. If the properties are similar in all respects, the value of the ones recently sold is adopted as the value for the one being valued.

6. Training

Reference [15] defined training as 'the process of learning the skills that you need to do a job". The Estate Surveyor and Valuer already trained in valuation is required to access further training in environmental valuation in order to be abreast with the techniques of environmental valuation.

6.1 How the Estate Surveyor and Valuer is Trained

According to Ogunba [14], some of the training requirements to become a valuer are:

- Has obtained an appropriate degree at a recognized centre of learning.
- Is a member of recognized national professional body.
- Abides by all the conditions of International Valuation Standards Council [13].

6.1.1 Obtaining a Degree from a Recognized Centre of Learning

The profession of surveying and valuation is included in the study of estate management in most institutions of learning. A person registered for the training goes through the duration of the career and upon completion of the required courses and other conditions, is given a certified authority.

6.1.2 Is a Member of Recognized National Professional Body

In Nigeria, the Nigerian Institution of Estate Surveyors and Valuers is the professionally recognized body of Estate Surveyors and Valuers [9]. It was founded in 1969 by a group of young Nigerian graduates who essentially read in the United Kingdom. The body was given legal recognition in1975 through Decree No 24 of 1975, now Cap E.13 Laws of the Federation of Nigeria [5].

There is also the Estate Surveyors and Valuers Registration Board of Nigeria established in 1975 under Decree No 24 of 1975 now Cap E. 13 Laws of the Federation of Nigeria [5]. This body regulates the practice of Estate Surveying and Valuation in Nigeria [17].

6.1.3 Abides by all the Conditions of International Valuation Standards Council [13]

Although every country has her own professional body that supervises the practice of surveying and valuation, there is an international body known as International Valuation Standards Council, which ensures that there is uniformity in the principles of valuation all over the world and that members conform to these principles.

7. Meaning of Environment

Reference [15], in one of its definitions of environment stated that it is “the natural world in which people, animals and plants live”. Uchegbu [18], cited Encyclopaedia Britannic, Vol. 4, which defined environment as “the complex of physical, chemical and biotic factors that act upon an organism or an ecological community and ultimately determines its form and survival”. Living things in their places of confinement struggle for survival as they interact among themselves. In our global confinement, the land, air and water bodies together form the earth’s environment just as each of them is an entity of its own environment.

7.1 Environmental Valuation

Environmental goods and services are not traded in commercial quantities in the market hence their valuation

requires special techniques that are different from the traditional valuation techniques.

Environmental Valuation is defined as the process of ascribing monetary values to environmental goods and services, many of which have no easily observed market prices [1]. Some of the goods and services include pleasing vistas, mountain vistas, flora, fauna, watersheds, non timber forest products like snails, honey etc.

Valuation of environmental goods and services is grouped into two methods – pecuniary and non-pecuniary methods [2]. In pecuniary valuation, money is used as a measure of value for goods and services while in non pecuniary valuation, money is not necessarily used but people's feelings and perception are the yardsticks of measuring value.

In supporting this idea, this paper is of the opinion that certain aspects of the traditional techniques that will strengthen environmental valuation techniques should be applied. Such aspect as income capitalization approach where outgoings are deducted from gross income realized through the contingent valuation method to arrive at net income should be applied. The realized net income, when capitalized, will produce a more realistic and professionally computed value for environmental products and services.

8. Brief History of Environmental Valuation

Environmental Valuation evolved through many years of research work carried out by researchers in developing countries and countries in transition [3]. The work was facilitated by the Economics, Trade and Environment Unit of the United Nations Environment Programme, UNEP.

Reference [19] noted that all over the world, biodiversity was competing with other uses of land such as agriculture, roads, buildings etc and unless there is economic value investment in biodiversity, it will go into extinction.

In 1993, a body known as Centre for Social and Economic Research of the Global Environment (CSERGE) was commissioned by the United Nations Environment Programme to "prepare a collection of valuation methodologies and studies in developing countries". This was as a result of a systematic study and realization of the importance of environmental goods and services in developing countries of the world. In 1994, UNEP called an expert group meeting on how to value environmental and natural resources and to review existing methodologies in these developing countries. Thereafter four regions of the world were selected for workshops to review the existing methods. The regions were Africa, Asia, East and Central Europe and Latin America. The workshops that were held led to a conclusion that the literature that was reviewed gave few examples of the application of the methods in developing countries and countries in transition. The peculiar nature of these environments required that there should be special ways to value them. Therefore it was decided to carry out case studies to show how practicable and possible it would be to use valuation methods in valuing these environments.

The different research institutions in these four regions employed the use of an earlier paper by Kuik and his colleagues [20] as the initial guide. After several meetings, coordinators from these regions were mandated to

produce approaches consistent with their peculiar environments and ensure a wide range of application for all the regions.

Below is a table showing the result of the research work:

Table 1: Valuation Methods included in the Compendium

Country	Environmental Issue	Valuation Methods or Components
Africa		
Kenya	Value of time sent collecting water	Revealed preference approach (application of discrete choice theory); Random utility theory approach
Kenya	Value of wildlife viewing	Travel Cost Method; Contingent Valuation Method;
Ghana	Determination of land values in Accra	Hedonic Pricing Method
Cameroon	Costs of rainforest conservation	Costs of forgone benefits from commercial logging and hunting; Benefits from tourism, fisheries protection, flood control, and soil fertility maintenance
Asia		
Philippines	Profitability of forest plantations	Replacement cost method; Change in productivity method; Loss of earnings method; Shadow project method
Taiwan	Air pollution and health	Contingent Valuation Method
Sri Lanka	Environmental impacts of highway construction	Loss of productivity of fisheries and agriculture; Loss of non-agricultural land and buildings; Costs of noise, air, and water pollution
Eastern and Central Europe		
Poland	Air pollution-related damages to forests	Loss of productivity;

		Losses from premature felling; Reconstruction costs; Loss of non-productive uses
Estonia	Environmental problems of oil shale extraction	Costs of land reclamation; Costs of compensation payments; Reproduction costs off (polluted) water resources
Russian Federation	Forest park in the Moscow region	Reproduction cost method; Discounted income method; Travel Cost Method
Latin America and Caribbean		
Chile	Air pollution control in Santiago	Human capital approach; Mitigation cost approach
Netherlands Antilles	Reef conservation	Loss of income method; Contingent Valuation Method; Costs of protection
Haiti	Water services	Contingent Valuation Method
Mexico	Forest valuation	Damage costs avoided; Mitigation costs avoided; Contingent Valuation Method; Travel Cost Method
Nicaragua	Valuation of mangroves	Loss of income method; Change in productivity method; Contingent Valuation Method; Travel expenditure method

Source: [3]

9. Some methods of Environmental Valuation *include:*

- Contingent Valuation Method (CVM)
- Hedonic Pricing Method
- Travel-Cost Method
- Market Price Method
- Willingness To Pay

9.1 Contingent Valuation Method (CVM)

The last four environmental valuation techniques mentioned above are known as revealed preferences toward some marketed goods, connecting them to non-marketed environmental attributes. On the other hand, the contingent valuation method is a stated or expressed approach to the valuation of environmental goods and services [21]. In this method, individuals are directly asked to state the value they attach to environmental attributes. They are also asked to express their reaction to any change in the environment. The central idea here is that individuals are asked to state what their preferred values are for their goods and services. The "bids" obtained from them are taken as values. These "bids" or prices are usually different from market prices of those goods and services.

9.2 Hedonic Pricing Method

This model relies on the proposition that an individual's preference for a good is based on the attributes of the good [21]. It measures economic costs or benefits relating to environmental attributes or qualities such as water and air pollution and noise and environmental amenities such as pleasing vistas (aesthetics views) and nearness to recreational sites. These attributes affect rent or land price directly.

9.3 Travel-Cost Method

This is based on the assumption that the cost that people incur to visit a site is the payment or the "price" of access to the site and its environmental services [2]. This cost is in the form of transport, time spent, gate fee, refreshment inside the site etc.

Once the total cost of visiting the site is determined based on the number of visits made by the visitor, the visitor's total benefit can be calculated by using his/her consumer surplus. In order words enjoyment benefit gives the visitor satisfaction and is placed above actual cost incurred in visiting the site.

9.4 Market Price Method

Reference [2] opined that this method gives an estimation of consumer surplus and producer surplus based on market price regarding the environmental goods and services that are marketed.

Consumer surplus is the benefit enjoyed by the consumer over and above the cost he/she incurred for

commanding the goods and services.

In the same vein, **producer surplus** is the benefit enjoyed by the producer over and above the cost of producing the goods and services.

9.5 Willingness to Pay

This is the ability of somebody to pay (or willingness to pay) for a good or service based on the person's value perception of that good or service [2]. This ability to a great extent depends on the person's wealth. A person who values Jaguar car and has the wherewithal will be willing to pay for it.

Snail is a special delicacy and relatively expensive in the Niger Delta area of Nigeria. Those who value it are always willing to pay for it even in the dry season of the year when it is scarce and more expensive.

10. Methodology

Reference [22], stated that methodology is "the strategy, plan of action, process, or design lying behind the choice of particular methods and linking the choice and use of methods to the desired outcome". It is the opinion of this paper that a researcher is meant to follow a research principle and take a position that will lead people to understand the approach, logic, strategy and methods employed to carry out a research.

10.1 Data Collection

Data collection for the paper was survey through questionnaires. Data were collected between July 4 and 25, 2016.

10.2 Sample Size

Sample size was made up of:

- 20 respondents of Real Estate Academicians of the department of Estate Management selected from Rivers State University of Science and Technology, Nkpolu Oroworukwo, Port Harcourt [23]; Ken Saro Wiwa Polytechnic, Bori; Imo State University Owerri; University of Benin, Benin City; University of Nigeria Nsukka, Enugu Campus, Nnamdi Azikiwe University, Awka and Federal Polytechnic Nekede, all of Nigeria.
- 100 respondents of Real Estate Practitioners who have their head offices in Port Harcourt, Nigeria. Each member of the sample size is an element and the lecturers among them are also Practicing Estate Surveyors and Valuers.

Their number and membership were sourced from the secretariat of Rivers State Branch of Nigerian Institution of Estate Surveyors and Valuers [24] and the Branch Bulletin [25].

10.3 Data Analysis Technique

Statistical tools like frequency and percentages were used in the analysis. According to Mathsteacher.com.au [26], **the frequency** of a particular data value is the number of times the data value occurs.

11. Data Analysis and Result

25 questionnaires were administered on real estate academicians out of which 22 were retrieved and this gave a retrieval of 88%. Of the 22 that were retrieved, 20 were found usable after 2 were discarded on grounds of incorrect filling, giving 91% usable rate.

125 questionnaires were administered on 125 real estate practitioners, out of which 110 were retrieved and this accounts for 88% retrieval. Of the 110 retrieved, 10 were discarded on grounds of incomplete filling, leaving 100 completed and usable questionnaires. This gave rise to 91% completed and usable questionnaires.

In the ranking which is on 5 point lirket scale, No idea/No comment are least with 1 point; Not included/Not very often are ranked second with 2 points; Not contemplated/Not often are third with 3 points; Contemplated/Often come fourth with 4 points and Included/Very Often are last with the highest point of 5.

Question 1: Confirm whether environmental valuation is included in your departmental course content.

Table 2: Frequency and percentage rating on whether environmental valuation is included in some schools' departmental course content.

S/N	Decision	Frequency	Percentages (%)
1.	No idea	0	0
2.	Not included	15	75
3.	Not contemplated	0	0
4.	Contemplated	0	0
5.	Included	5	25
	Weighted values	**20**	**100**

Source: Field Survey

11.1 Analysis

Out of the 20 respondents, 3 from Rivers State University of Science and Technology, Port Harcourt and 2 from Ken Saro Wiwa Polytechnic, Bori, representing 25%, said the course was included in their course content. Of the remaining 15 respondents, 3 each from Imo State University, Owerri, University of Benin, Benin City, University of Nigeria Nsukka, Enugu Campus, Nnamdi Azikiwe University, Awka and Federal Polytechnic, Nekede, which represented 75%, confirmed that the course was not included in their departmental course content. The rest variables ie No idea, Not contemplated and Contemplated had no responses and therefore no percentages. The result of the study also shows that the two higher institutions in Rivers State mentioned here – Rivers State University of Science and Technology, Port Harcourt and Ken Saro Wiwa Polytechnic, Bori, have

included environmental valuation in their course curriculum. The peculiar environmental nature of Rivers State makes it imperative for the inclusion of environmental valuation to address the peculiar condition of the state. This is in compliance to the position of National Universities Commission [27] that allows universities to reflect the peculiar nature of their zones in the build up of their course content.

Question 2: As a Practicing Estate Surveyor and Valuer, indicate how often you apply environmental valuation techniques to value environmental goods and services.

Table 3: Frequency and percentage rating on how often valuers apply environmental valuation techniques to value environmental goods and services.

S/N	Decision	Frequency	Percentages (%)
1.	No comment	1	5
2.	Not very often	11	55
3.	Not often	5	25
4.	Often	2	10
5.	Very often	1	5
	Weighted values	**20**	**100**

Source: Field Survey

On question 2, Practicing estate surveyors and valuers were asked to indicate how often they apply environmental valuation methods to value environmental goods and services. Out of the 20 respondents, 1 representing 5% indicated no comment; 11 representing 55% said not very often; 5 which represented 25% said not often; 2 which was 10% of the respondents said they often used the methods while 1 respondent representing 5% said the methods were very often used.

Question 3: Do you agree that gross income realized through the contingent valuation method should be subjected to deductions of expenses of production/collection (outgoings) to accommodate labour and expenses?

Table 4: Frequency and percentage rating on whether gross income realized through the contingent valuation method should be subjected to deductions of outgoings to accommodate labour and expenses.

S/N	Decision	Frequency	Percentages (%)
1	Neither /Nor	10	10
2	Strongly disagree	5	5
3	Disagree	10	10
4	Agree	20	20
5	Strongly agree	55	55
	Weighted values	**100**	**100**

Source: Field Survey

On question 3, the table shows that out of the 100 respondents, 10 which represented 10%, said neither/nor; 5 which represented 5% strongly disagreed; 10 respondents representing 10% disagreed; 20 of them made up of 20% agreed while 55 that had 55% strongly agreed. This is also reflected in the frequency chart above.

Statistical tools like frequency and percentage rating were used in the analysis. According to Mathsteacher.com.au [26], **the frequency** of a particular data value is the number of times the data value occurs.

12. Findings and Discussions

On question 1, the number of respondents that agreed that environmental valuation is included in the course content of the department of estate management of Rivers State University of Science and Technology, Port Harcourt and Ken Saro Wiwa Polytechnic, Bori, is 5 out of 20, indicating 25% agreement.

Though the two higher institutions have only recently started to run environmental valuation course, students and graduates of the two schools are yet to enter the main stream valuation practice.

From the other five institutions which are Imo State University, Owerri, University of Benin, Benin City, University of Nigeria, Enugu Campus, Nnamdi Azikiwe University, Awka, and Federal Polytechnic, Nekede, all the 15respondents which represented 75%, confirmed that environmental valuation was not included in their course outline. A percentage ratio of 25 for inclusion and 75 for non inclusion clearly shows that many higher institutions in Nigeria do not offer environmental valuation.

On question 2, 11 practicing surveyors and valuers or 55% of the 20 of them said they did not very often apply the methods; another 25% of them or 5 of them did not often apply the methods. This is a confirmation that environmental valuation methods are rarely used in the valuation of environmental goods and services in Nigeria.

On question 3, out of the 100 respondents, 55% strongly agreed and 20% agreed that income derived from contingent valuation method should be subjected to deductions of outgoings to accommodate labour and expenses. Of the remaining 25%, 10% were not decided; 5% strongly disagreed while another 10% disagreed. This shows that 75% were positive that income derived from contingent valuation should be subjected to deductions of outgoings to accommodate labour and expenses.

13. The Need for Valuers to Possess Environmental Valuation Knowledge

Valuers need to possess the knowledge of environmental valuation to enable them to professionally ascribe values to these products so that those who gather them will begin to realize their economic importance. This will open the window for proper trading of these products in the market.

14. Limitations

This study is based on the minimum academic standards of degree programmes in Estate Management as

prescribed by the National Universities Commission (NUC) and opinions of practitioners in the Niger Delta region of Nigeria.

It is possible that other countries may have schemes that are more elaborate than the Nigerian educational institutions. The applicability of the paper is thus limited to the training of the Nigerian Estate Surveyor and Valuer (Appraiser).

15. Conclusion

Our natural environment is being depleted at a fast speed due to human activities. Environmental goods such as non timber forest products – snails, honey, bush meat, bush mango, edible leaves and fruits etc, though not traded, constitute a level of income generation to the rural dwellers in developing countries. In the event of compulsory acquisition or contamination, valuers resort to the use of traditional valuation methods to ascribe values to these forest goods or at best adopt pre-determined rates for compensation. The use of predetermined rates has always been the bane of disagreements between government agencies and oil and gas companies on one hand and land owners where these goods are found on the other. The peculiar nature of these goods calls for training in special valuation methods.

Environmental valuation is an emerging trend that focuses on environmental goods and services. The need for valuers to be trained in this emerging trend will be quite rewarding as it will help to reflect the views of their clients and reduce disagreements. It will also put confidence in valuers that a more professional and all-inclusive work has been done.

Though environmental valuation methods may have their deficiencies, it is observed that they still offer the best and harmonious opportunity in the valuation of environmental goods and services.

16. Recommendations

- Institutions of learning offering estate management should include environmental valuation in their curriculum.
- National Universities Commission should be educated on the need for the inclusion of environmental valuation in Nigerian universities course content.
- Environmental Valuation should be included in the course content of Nigerian Institution of Estate Surveyors and Valuers for its professional examinations in the training of pupil estate surveyors for practice.
- The Nigerian Institution of Estate Surveyors and Valuers in conjunction with the Estate Surveyors and Valuers Registration Board of Nigeria should periodically organize Mandatory Continued Professional Development (MCPD) and seminars to update members' knowledge on environmental valuation.

References

[1] J.A. Dixon. Environmental Valuation: Challenges and Practices. Conference Paper: Conservation

Strategy Fund, Cordon and Betty Moore Foundation and Resources for the Future, 2008, pp 1.

[2] S. K. Mishra. Valuation of Environmental Goods and Services: An Institutionalistic Assessment, 2006, pp 1-2.

[3] H. Abaza and J. Rietbergen-McCracken. Environmental Valuation – A Worldwide Compendium of Case Studies: A United Nations Environment Programme (UNEP) Sponsored Research, 1998 pp 1-3.

[4] R.T.M. Whipple Property Valuation and Analysis; Law Book. Sidney, NSW, Australia, 1995.

[5] Nigerian Institution of Estate Surveyors and Valuers Decree No 24 of 1975, now Cap E.13, Laws of the Federation of Nigeria LFN, 2007.

[6] K. H. Redford. The Many Values of Wild Animals in Forest Ecosystems. In Current Issues in Non Timber Forest Products Research: Centre for International Forestry Research. Hotspring, Zimbabwe, 1995, pp 41-53.

[7] I.U. Kalu. Property Valuation and Appraisal. Owerri: Bon Publications, 2001, pp 24.

[8] International Valuation Standards Council IVSC, 2003.

[9] V.A. Akujuru. A Framework for Determining the Compensable Value of Damages Due to Contamination to Wetlands in the Niger Delta of Nigeria: Phd Thesis, 2014 pp 74.

[10] Royal Institute of Chartered Surveyors RICS, 2006.

[11] Johnson, et al. Modern Methods of Valuation of Land, Houses and Buildings, 9th Edition, EPP Book Services Ghana, 2000, pp 1.

[12] Royal Institute of Chartered Surveyors RICS, 2005.

[13] International Valuation Standards Council IVSC, 2007.

[14] O. A. Ogunba. Principles and Practice of Property Valuation in Nigeria. Ibadan: Atlantis Books, 2013 pp 73.

[15] A.S. Hornby. Oxford Advanced Learner's Dictionary New 8th Edition. Oxford University Press, 2010, pp 1586, 491.

[16] Estate Surveyors and Valuers Registration Board of Nigeria Decree No 24 of 1975, now Cap E.13, Laws of the Federation of Nigeria LFN, 2007.

[17] G.S.A. Ifediora. Appraisal Framework – Lectures on Theory, Principles, Methods and Practice of Property Valuation. Enugu: Iwuba Ifediora and Associates, 1993, pp 15-16.

[18] S. N. Uchegbu. Environmental Management and Protection. Enugu: Precision Printers and Publishers, 1998, pp 3.

[19] Pearce, D. Economics and Environment. Edeltendim, UK: Edward Elgar Publishers, 1998. Pp 49

[20] Kuik, et al. Assessment of Benefits of Environmental Measures. Free University Institute for Environmental Studies. Amsterdam, 1990

[21] C. Dosi. Environmental Values, Valuation Methods, and Natural Disaster Damage Assessment, Paper Prepared on behalf of the United Nations Economic Commission for Latin America and the Caribbean, 2000, pp 27.

[22] N. Collin. Introduction to Research and Methods, Bradford, UK, University of Bradford, 2005

[23] Rivers State University of Science and Technology Nkpolu Oroworukwo, Port Harcourt, Nigeria, Department of Estate Management Bulletin, 2013.

[24] Nigerian Institution of Estate Surveyors and Valuers, Rivers State Secretariat, 2016.

[25] Nigerian Institution of Estate Surveyors and Valuers, Rivers State Branch Bulletin, 2010.

[26] www.Mathsteacher.com.au. Year 8 Interactive Maths – Second Edition, 2000-2016. Accessed 23-09-2016.

[27] www.nuc.edu.ngNationalUniversitiesCommissionBulletin. Accessed 30-09-2016.